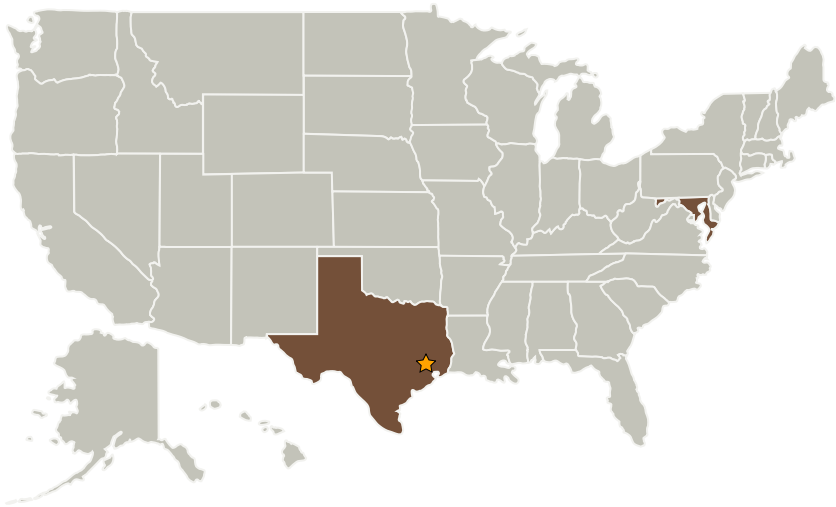
High Performance Nitrous Oxide MET, Phase I

Completed Technology Project (2004 - 2004)

Project Introduction

This proposal seeks to address the topic of developing an on-board propulsion device which will significantly increase capabilities and reduce costs for Earth science spacecraft. The propulsion device which is proposed here is a microwave powered, electrothermal thruster which will utilized nitrous-oxide as a propellant. The device is referred to a MET-100, a Microwave Electrothermal Thruster which has a nominal power output of 150 W. The thruster will utilized 300 W of spacecraft power and develop a specific impulse of 300 seconds.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Research Support Instruments, Inc.	Supporting Organization	Industry	Lanham, Maryland

Primary U.S. Work Locations	
Maryland	Texas

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Daniel J Sullivan

Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
  - TX03.3 Power Management and Distribution
    - TX03.3.3 Electrical Power Conversion and Regulation